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ABSTRACT

There are four phases to the Deerfield High School (Chicago, Illinois) sex-fair performance evaluation system: (1) a point system allowing students to control 50 percent of their grades through participation and attendance; (2) an ongoing evaluation procedure concerned with determining the contributions of various units of instruction (all curriculum offerings are evaluated in terms of their contributions to various forms of fitness); (3) the use of the AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance) Physical Fitness Test and the Health Related Fitness Test; and (4) skill testing as a means of assessing personal performance and maintaining a high level of student participation--standard tests and individual teacher developed tests are used. Deerfield High School's assessment program places all athletic activities in the physical education program in five major physical fitness categories: (1) cardiovascular; (2) flexibility; (3) kinesthetics; (4) motor ability; and (5) strength/power. Categories involving lifetime sports and general fitness are also included. Physical education activities are examined for their contribution to student improvement in these areas. Appendixes include a report on the assessment testing program, a summary of the assessment evaluation program, a discussion of a projected testing program, and a report on assessment testing results for specific athletic programs. Also included is a list of tests used for measuring fitness in each of the five major categories. (JD)

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Deerfield High School Sex-fair Performance Evaluation Synopsis

Robert Jones

Deerfield High School

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The reader is referred to: Tips and Techniques: Ability Grouping and Performance Evaluation in Physical Education, Illinois State Board of Education. Springfield, Illinois. 1982.

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DEERFIELD HIGH SCHOOL SEX-FAIR PERFORMANCE EVALUATION SYNOPSIS

Abstract

The physical education staff at Deerfield High School has developed what they believe to be a sex-fair performance evaluation system that satisfies the demands of Title IX. The system is an ongoing process that meets the needs of the Deerfield community and was not intended to be cureall for other communities. The Deerfield staff philosophy of participation helped formulate the program. The program was begun in 1973 and continues to develop and change. There are four phases to the system.

1. Participation Points

   The point system is a method of allowing the student to control fifty percent of the grade through participation and attendance.

2. Assessment Testing

   This system is an ongoing evaluation procedure concerned with determing the contributions of various units of instruction. Our goal is to evaluate all Deerfield curriculum offerings in terms of their contributions to various forms of fitness.

3. Fitness Testing

   Deerfield is committed to the use of the AAHPER Physical Fitness Test and the Health Related Fitness Test in the near future.

4. Skill Testing

   We are involved in skill testing as a means of assessing personal performance and maintaining a high level of student participation. Standard tests and individual teacher developed tests are used.

A PRACTICAL/MANAGEMENT APPROACH TO SEX-FAIR PERFORMANCE EVALUATION

Deerfield is a suburban high school of 1900 students located 35 miles north of Chicago. The school presents a comprehensive curriculum for grades 9 through 12 and is one of two secondary schools in High School District 113. The students are from upper middle class families.

The grading procedures are divided into four distinct categories which are all an integral part of our grading process. The use of a participation point system, assessment testing, fitness testing, and ability skill testing will be addressed.

We believe we have complied with the demands of Title IX and believe we are grading in a fair manner for both sexes. However, we do realize a fair grading system in coed classes is a complex problem and we do not claim to have all the answers. We feel we have a start in the right direction. All the materials presented in this paper were developed for Deerfield and not intended for use by others. The systems we use have been built around our philosophical approach to physical education which will be explained in the assessment testing section. At this time we are comfortable with our system but realize we have several years of concentrated work ahead to produce the grading system we desire.

The Participation Point System

The system was developed by a committee of students, teachers, and the department chairperson in 1973 and has been reviewed and amended by similar committees in 1977 and 1979. Further review will take place in 1981 or 1982. The system puts fifty percent of a student's grade in the student's hands. In this respect the teacher is a recorder and record keeper for this half of the grade. Our school

has always had difficulty facing the attendance problem and this fact caused much concern for all teachers. We also had some complaints from students feeling that teachers were showing bias in grading. Most complaints were directed at coaches and athletes. Though most athletes are above average in physical education, some students will continue to make an issue of grading procedures. Our department was motivated to develop the participation point system as a result of this issue. The system has been well received by teachers and students.

The Physical Education staff believes that participation is the foundation upon which our programs are based. This position is not unique to Deerfield. The state of Illinois requires all students to participate in physical education unless the school does not have adequate facilities. The President's Council on Physical Fitness and Sports unanimously recommends that all students in grades K-12 participate in daily physical education programs. The American Medical Association by resolution, urges its various divisions and departments along with its constituent and component medical societies to encourage daily participation in physical education.

The key word in each of the examples cited is participation. Due to the great amount of emphasis placed on participation by medical societies, state agencies, and many physicians, we felt Deerfield's grading system should reflect the same emphasis.

The System:

A. A student will earn four points per day for attending class and participating.
   1. A student will earn only three points if tardy to class. A tardy may be defined as coming to class after roll has been taken and being able to participate in at least fifteen minutes of activity. Excused tardies may be made up if the student presents a pass.

2. If a student is only capable of officiating or scoring because of medical reasons, this shall be considered participation, and the student will receive the full four points.

3. In the swimming units make up is necessary if a student has not been in the water at least three quarters of the unit. A grade of zero may be given if the time requirement is not completed.

4. Students may use a contract system for makeup. The contract will allow appropriate makeup that will work in favor of the student's grade. Contracts may be used for prolonged absences. Any student who feels the need to makeup work in participation may request a contract. The student and teacher must sign the contract. It is the responsibility of each teacher to inform students of the availability of the contract system. Students should be informed during orientation week.

5. In cases when students may be in danger of failing due to excessive absences, the student may present her or his case to a review board for consideration. The review board will consist of three instructors and the department chairperson.

B. A student will not earn participation points for any type of absence.

1. A student with an authorized absence may make up written tests, skill tests and participation points.

2. During the first three unauthorized absences a student may make up written tests, skill tests and participation points.

3. A student may make up written tests, skill tests, and participation points for subsequent unauthorized absences, if the teacher continues to deduct three percentage points.

4. A teacher may choose not to deduct three percentage points for unauthorized absences beyond three. In such a case the teacher may assign a grade of zero for any type of test given on the day of the unauthorized absence.

4.1 After three unauthorized absences a teacher may continue to deduct three percentage points if:

4.1.1 The teacher informs the student's parents of the continued three percentage point grade reduction. The parent contact may be by phone or letter.

4.1.2 The teacher meets with the student after each subsequent unauthorized absence and informs the student of the intended deduction.

C. 1. One half of the student's grade will be based on the participation points. This grade will be obtained by dividing the total number of possible points into the total number of participation points the student actually earns.

2. One half of the student's grade will be based on achievement through written tests, skill tests, improvement and effort.

3. Each half of the student's grade will be computed into a percentage and then will be averaged together for the final mark of the grading period.

The Assessment Program

Deerfield's assessment testing program was developed in the summer of 1972 through a summer physical education workshop. One phase of the testing began in the 1972-73 school year and was completed in the 1979-80 school year. The five year program was delayed because no release time was granted the tester during some years. Another physical education workshop was granted in the summer of 1981 to complete work on the results obtained from the assessment testing program. A second purpose of the workshop was to develop a program to involve all staff members in the remaining phases of the testing program.

During the first phase of testing the tester was granted one free period, or one less class, to do the testing. It was not realized at the time that the results would not produce the data needed to complete the study. Lack of experience with assessment testing, and not being permitted to test more often caused the problem. One tester did all the testing of each class being tested. A cross section of as few as ten students from each class being tested was developed. The results of all testing and the entire program was designed for use by Deerfield and was never intended to be a pure scientific experience. However, with some refinement the program could be adapted to any school system.

The program was developed for continual change. The five basic established areas used for grouping activities have what we call a major and minor form. The major form can be changed by unit information supplied by each teacher who prepares a minor form for each unit taught. The reader will understand the process when the supporting documents are reviewed.

The school year of 1981-82 will be the start of the second phase of our assessment program. Every unit taught will be pre and post tested for cardiovascular benefits regardless of the major category placement of the unit. If a unit has been placed in the motor ability category the instructor will prepare an assessment form for motor ability activity. However, at this stage of the program we will test students for cardiovascular benefits at the start and end of the unit. The information received will help us place the units in the proper category. At present the units have been placed by what four individuals felt was proper. Some change is expected as a result of the future assessments.

At this time the pre and post test scores will not be recommended for use in determining a student's grade. However, after all phases of the assessment testing is completed it is felt we will have an excellent sex fair performance evaluation system. The system will be based on a student's entry level and departure level for the tested area for each unit. Under our present grading system the results would account for ¼ of the student's grade. The participation portion would count as ½ the grade while skill tests, and written tests would account for the remaining ¼ of the grade.

Attachments

1. Original Assessment Testing Program
2. Report of testing results and statement of the program

Not attached but to be completed for the August 13-14 symposium.

1. 1981 Cardiovascular testing instructions
2. Revised categorization of units.
3. Instructions for completing the minor assessment forms.

The Fitness Testing Program

All students at Deerfield take the AAHPER Fitness Test. The test has national norms and serves as an excellent sex fair performance evaluation. We intend to administer the Health Related Fitness Test along with the AAHPER test beginning the 1982-83 school year. Both tests are directly related, in various degrees, to our assessment testing program.

Deerfield began administering the AAHPER test with its first class in 1962. At that time, only boys were required to take the test. Beginning with the school year of 1977, all students have been required to take the test. In 1972 at least one instructor began to interpolate the fitness test scores into a grade. Students were informed that they should treat the test as they would any semester test given in any other discipline in school. The test would account for ¼ of the fourth quarter grade. Right or wrong, the students accepted the fitness test as a semester exam. By 1979, all instructors had interpolated the test results into a grade. A 50 percentile score on the fitness test is a middle "C" or a 75% in our grading system. See the attached form for an example of the conversion policy.

Reservations are still harbored by some concerning the advisability of converting the score into a grade. However, it has been well received by students of Deerfield. We do have three adaptive classes that absorb most of the possible AAHPER test failures. Students who take the test seriously and put forth a concerted effort find it very difficult to receive a failing grade. Converting the test scores to a grade has been a motivational factor for most students.

Skill Testing

When the co-ed classes became a reality at Deerfield there was much apprehension on the part of teachers and students concerning the entire operation. Students were uncomfortable with the opposite sex in a "P.E." class and teachers were simply unsure. Most of the anxious feelings no longer exist. Some problems such as locker room supervision, boys and girls not wanting to participate together, and unequal skills will be with us for a longer period of time.

Skill testing at Deerfield is not based on a specific formula because many units do not lend themselves to standard tests or because standard tests have not been developed for many activities. Some examples of this may be: Rock Climbing and Rappelling, Square Dance, Cross Country Skiing, and Kayak. As in all activities the fundamentals must be developed in order to participate fully in the activity. As an example we cite the rock climbing and rappelling unit which begins with a knot tying session shortly after the introduction. We use a skill check-off chart containing all the skills we intend to use during the unit. After a demonstration and several practice sessions the students are asked to perform the skill. Some examples may be: To tie a bowline knot on a coil, to demonstrate the belaying method used on a fellow climber, to demonstrate the pendulum action on a bounce-off rappell. Continuous checks are made on personal improvement during the unit. The check-off sheet is arranged in a sequential order. The skill portion of ones grade is based on the successful demonstration of the skills listed.

Our Kayak, Snorkeling, and Skiing units are designed much the same. A check-off system has been developed from the most fundamental to the advanced or more complicated skills. Quite often a student will already know how to perform a required skill. With little practice the skill is performed and recorded. That student then becomes an aid or moves on to the next skill.

In the units discussed neither sex seems to face physical demands beyond capacity. Some students may progress slower than others as a result of poorly developed basic skills. The above mentioned activities have the unique quality of being uncommon and untried. Thus, we have few problems concerning dominance by one sex. Most students realize the given activity is new and that everyone is starting on the same level concerning knowledge and the skills involved.

In other areas such as paddleball and tennis some instructors have developed skill tests to assess student ability for grouping purposes. One instructor devotes several class periods to basic skills in paddleball. After several instructional and practice periods students are asked to rally a paddleball against the front wall from a specified distance for 20 times using a forehand stroke and 20 times using a backhand stroke. The amount of time needed to complete the task is recorded and the instructor uses the figures to help in developing a league consisting of equal ability players. Everyone then begins play against those in the same league. Most students - high, middle, and low ability bracket begin to improve. In each of the three brackets both sexes are often represented. The test does not dictate a certain standard to begin league play. Students do not compete against each other during the skill testing phase of the unit but rather against themselves.

The general indication seems to be that we devote much time to skill testing. This is not the case. We strongly believe that the advantages of ability grouping outway the advantages of homogenious grouping. We are not hung up on skill testing as such. As explained in the introduction to this paper we believe that participation is the most important ingredient of our program. Active participation leads to skill development, which leads to desire to play, which leads to various forms of fitness.

Team sports offer a different kind of challenge. Skill levels often show as having wide gaps from one student to another. Skill testing is not a coverall for participation. Our students demand play time and are not willing to wait in class for things to happen. Our track system helps eliminate some problems because students have a choice of several course outlines. Once the decision is made concerning what activities to take the students can live with the instructor's procedures.

Our system is not foolproof but we do believe that we are getting away from subjective grading. When our assessment testing program is completed and is put into operation we feel it will eliminate the ambiguous procedures in grading.

Concluding Statement

Our experience at Deerfield has proven that students like and appreciate objective measurement in physical education. They have been very receptive

to all our testing programs. The staff members are committed to the programs and are very much aware of the additional work which is inherent in them.

Our grading system is divided into four segments; participation point system, assessment testing system, fitness testing system and skill and written testing system. The assessment testing system is still being completed. The overriding factor with all the systems is that they are sex fair in our opinion. The reader may find our system hard to understand. One is not sure how much time the committee would like to devote to the program. Material will be brought to the meetings so a more complete explanation of the system can be given if desired.

Assessment Evaluation Program

The following information illustrates the methods we will use in assessing our program.

Catagories

1. Cardiovascular Activities
   - 1.1 Aquatic Activities
   - 1.2 Field Hockey
   - 1.3 Flickerball
   - 1.4 Folk Dance
   - 1.5 Football
   - 1.6 LaCrosse
   - 1.7 Soccer
   - 1.8 Speedball
   - 1.9 Team Handball
   - 1.10 Track

2. Flexibility Activities
   - 2.1 Fencing
   - 2.2 Gymnastics
   - 2.3 Tumbling
   - 2.4 Wrestling Activities

3. General Motor Ability
   - 3.1 Archery
   - 3.2 Badminton
   - 3.3 Basketball
   - 3.4 Bowling
   - 3.5 Dance
   - 3.6 Handball
   - 3.7 Ice Hockey
   - 3.8 Paddleball
   - 3.9 Rhythmic Gymnastics
   - 3.10 Softball
   - 3.11 Tennis
   - 3.12 Volleyball

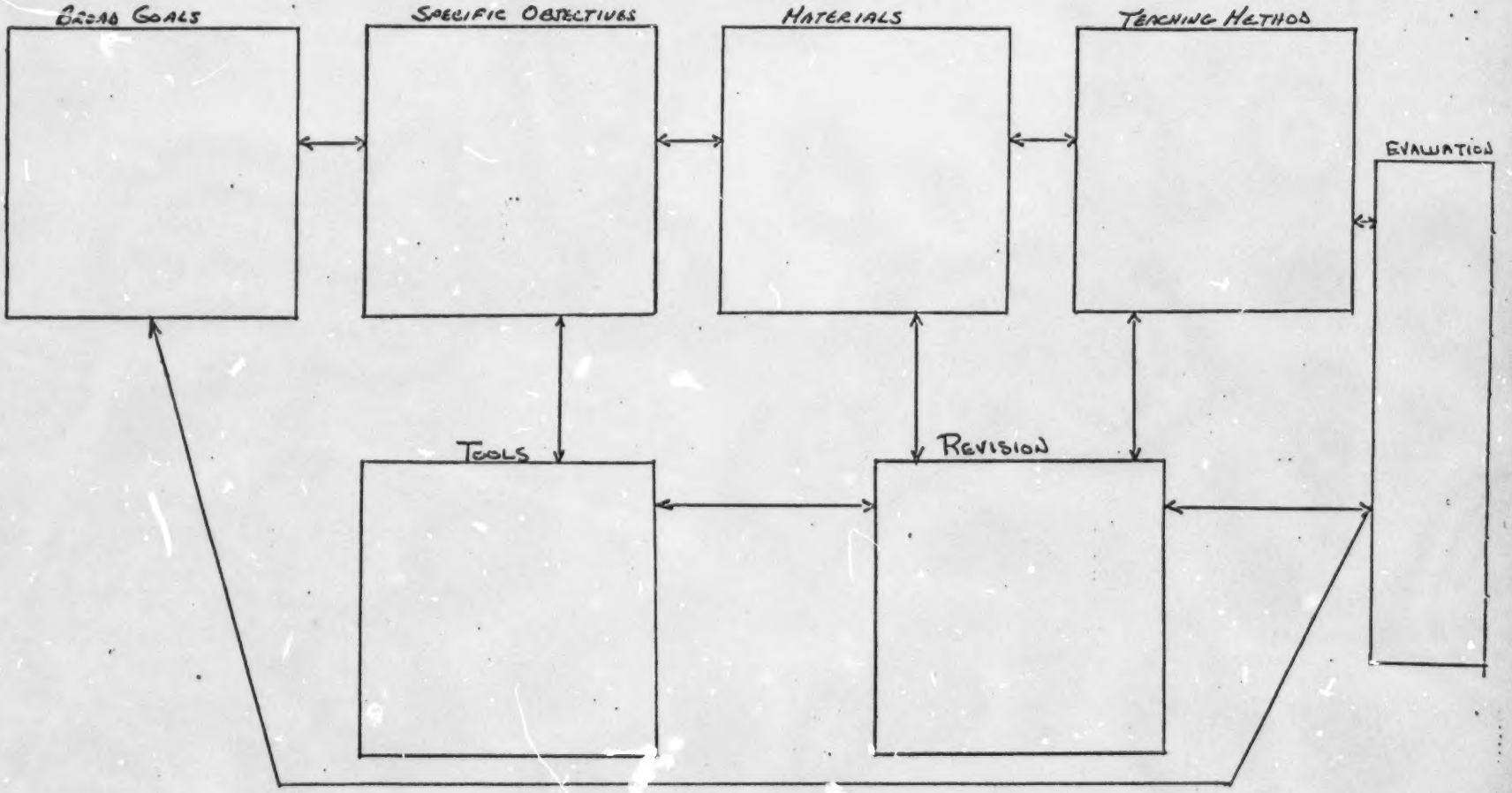
4 Kinesthetic Awareness
   - 4.1 Combative activities
   - 4.2 Dance
   - 4.3 Diving
   - 4.4 Golf
   - 4.5 Gymnastics
   - 4.6 Skiing
   - 4.7 Trampoline
   - 4.8 Tumbling
   - 4.9 Fundamental Movements
   - 4.10 Body Mechanics

5. Strength and Power
   - 5.1 Conditioning
   - 5.2 Gymnastics
   - 5.3 Tumbling (Girls)
   - 5.4 Volleyball (Girls)
   - 5.5 Weights

6. Life-Time Sports
   - 6.1 Archery
   - 6.2 Aquatic Activities
   - 6.3 Badminton
   - 6.4 Boating
   - 6.5 Bowling
   - 6.6 Curling
   - 6.7 Fishing
   - 6.8 Golf
   - 6.9 Horseback riding
   - 6.10 Outdoor education
   - 6.11 Tennis
   - 6.12 Trap and skeet shooting
   - 6.13 Volleyball

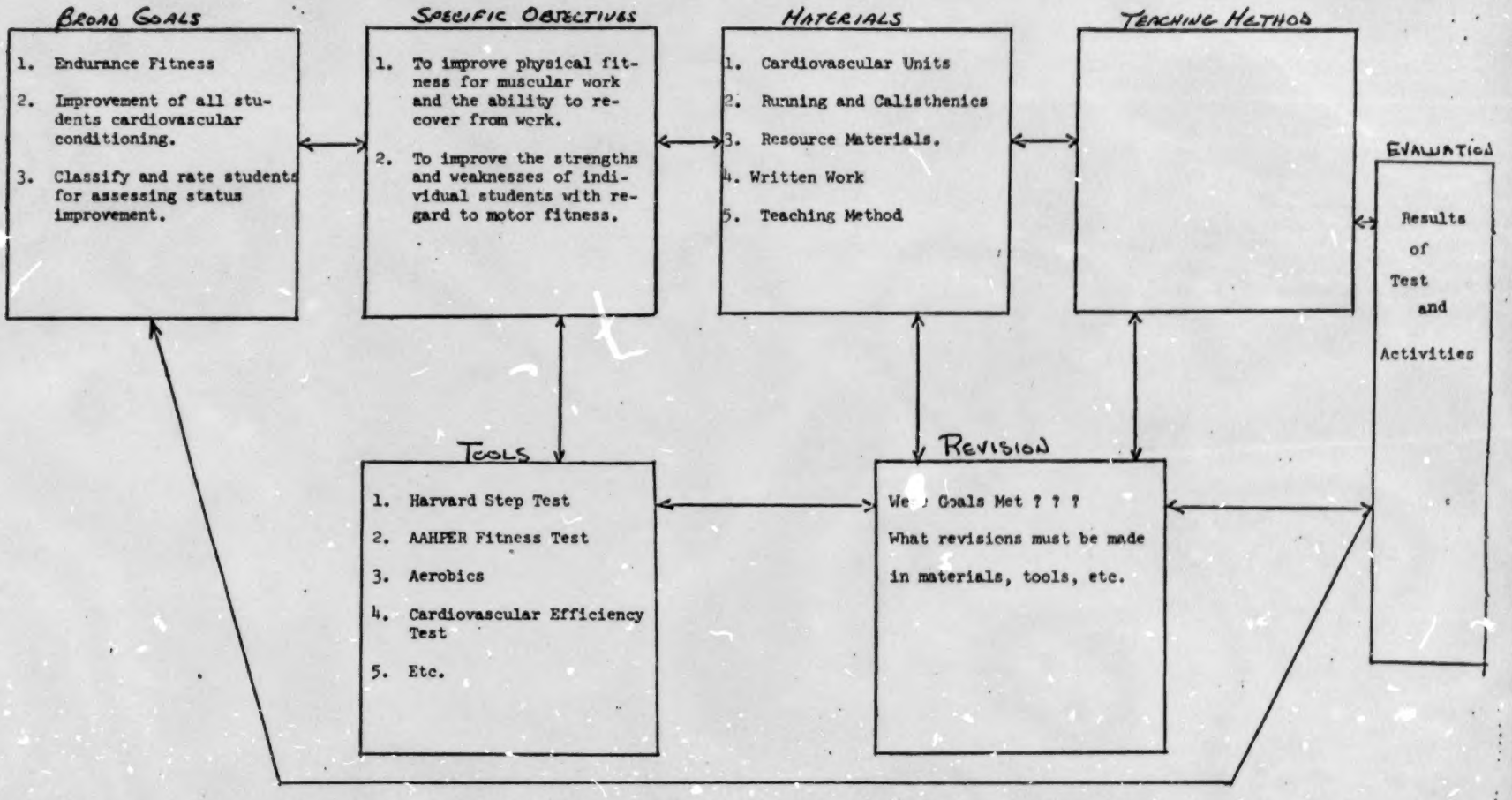
7. General Fitness
   - 7.1 Aahper Testing program
   - 7.2 Marine Testing program
   - 7.3 Deerfield High School - Testing program
   - 7.4 T.K. Cureton condition program
   - 7.5 Fitness for living unit.

PHYSICAL EDUCATION DEPARTMENT
UNIT ASSESSMENT FORM



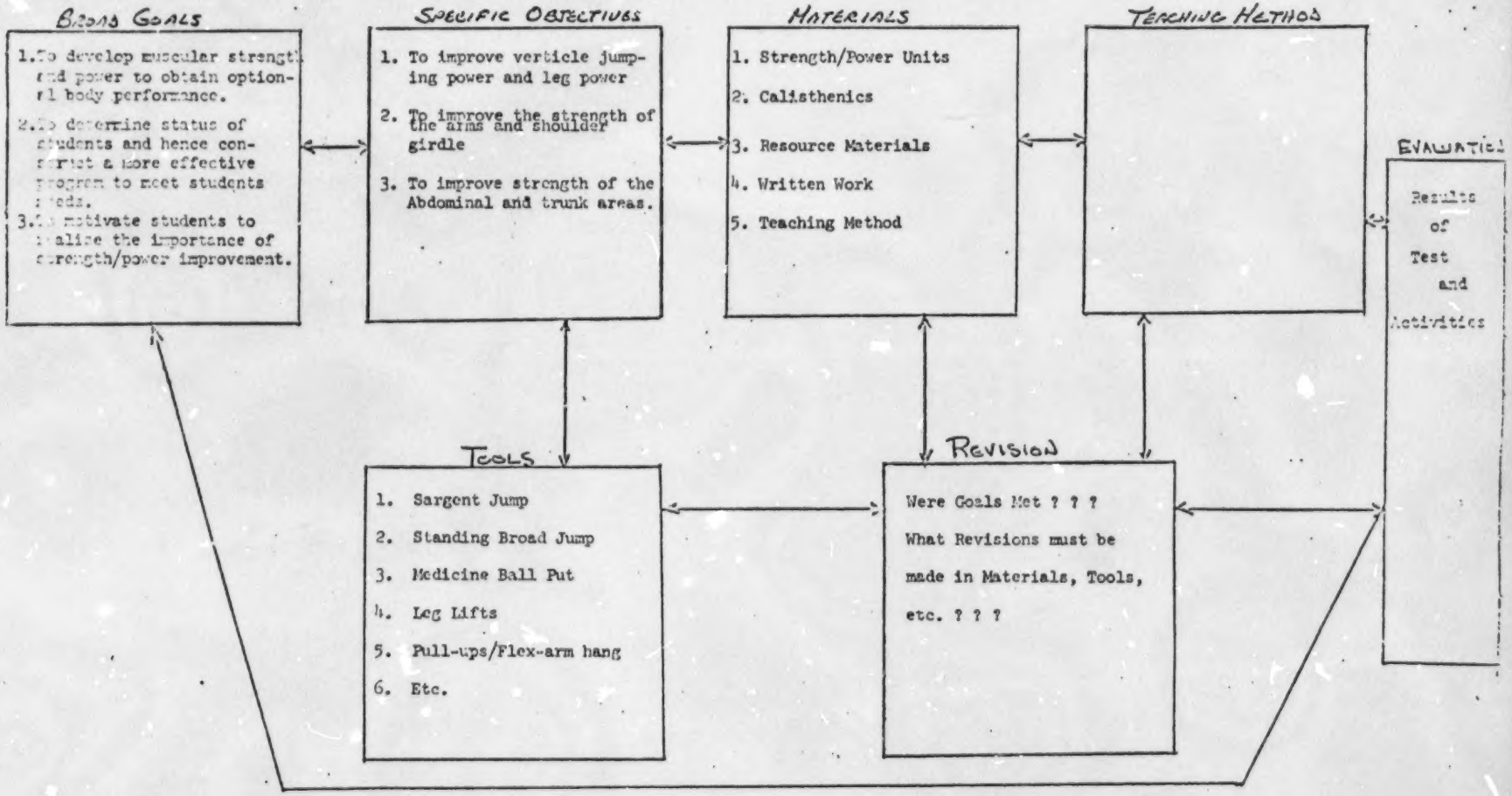
CARDIOVASCULAR ACTIVITIES

PHYSICAL EDUCATION DEPARTMENT
UNIT ASSESSMENT FORM

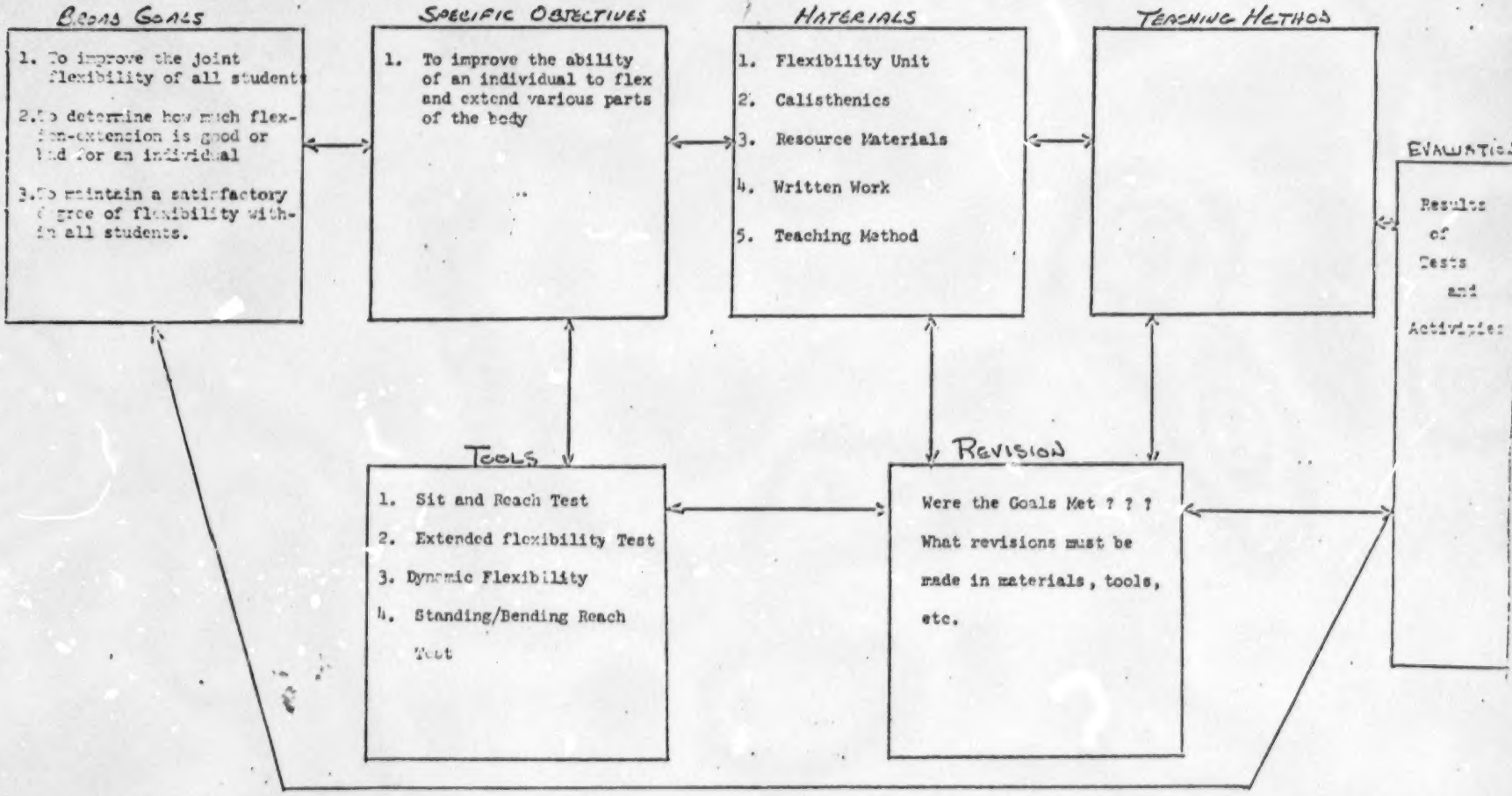

BROAD GOALS
1. Endurance Fitness
2. Improvement of all students cardiovascular conditioning.
3. Classify and rate students for assessing status improvement.
SPECIFIC OBJECTIVES
1. To improve physical fitness for muscular work and the ability to recover from work.
2. To improve the strengths and weaknesses of individual students with regard to motor fitness.
MATERIALS
1. Cardiovascular Units
2. Running and Calisthenics
3. Resource Materials.
4. Written Work
5. Teaching Method
TEACHING METHODS
EVALUATION
Results of Test and Activities
TOOLS
1. Harvard Step Test
2. AAHPER Fitness Test
3. Aerobics
4. Cardiovascular Efficiency Test
5. Etc.
REVISION
Were Goals Met ? ? ?
What revisions must be made in materials, tools, etc.

STRENGTH/ POWER ACTIVITIES

PHYSICAL EDUCATION DEPARTMENT
UNIT ASSESSMENT FORM

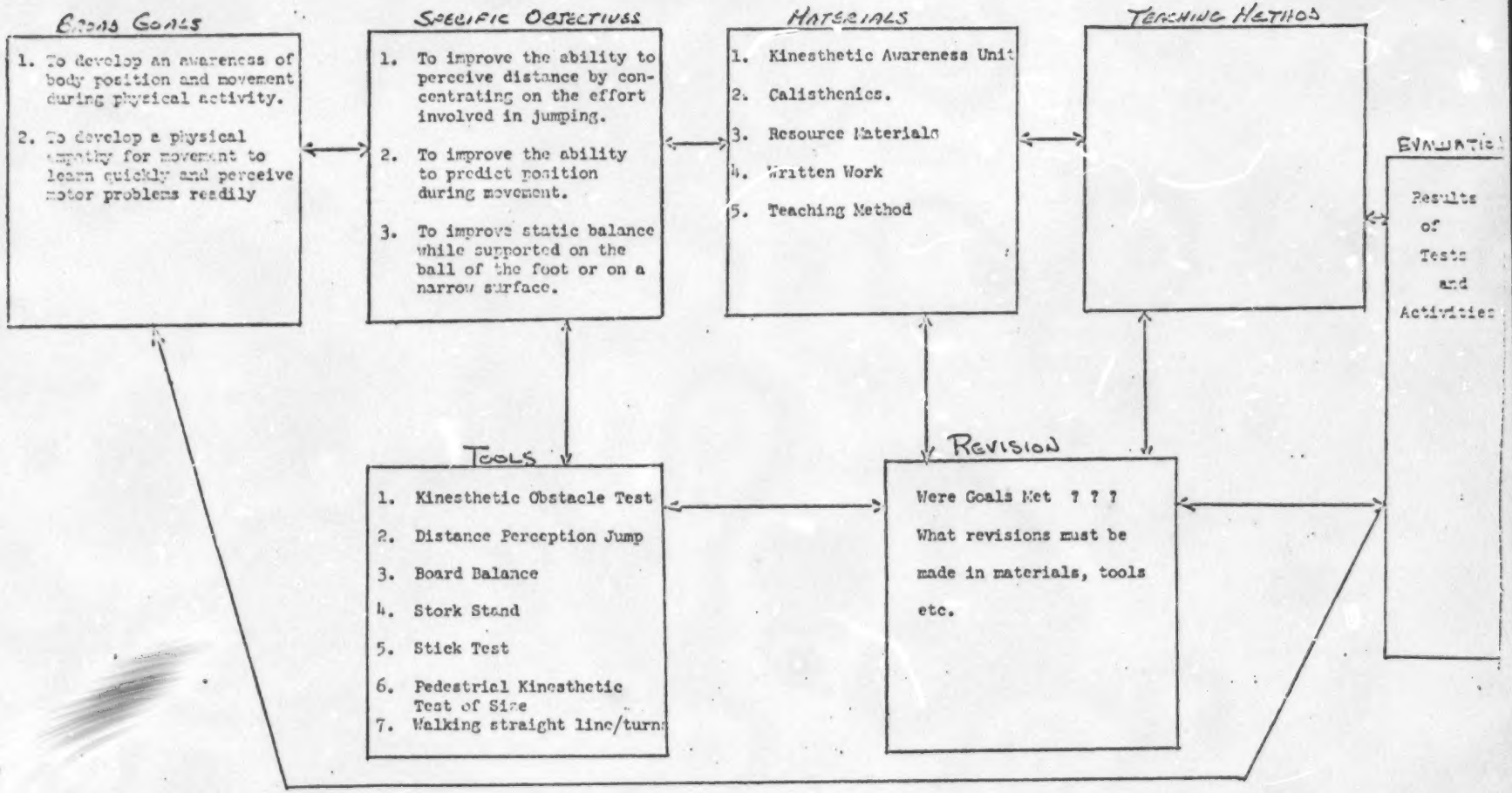

BROAD GOALS
1. To develop muscular strength and power to obtain optional body performance.
2. To determine status of students and hence construct a more effective program to meet students needs.
3. To motivate students to realize the importance of strength/power improvement.
SPECIFIC OBJECTIVES
1. To improve verticle jumping power and leg power
2. To improve the strength of the arms and shoulder girdle
3. To improve strength of the Abdominal and trunk areas.
MATERIALS
1. Strength/Power Units
2. Calisthenics
3. Resource Materials
4. Written Work
5. Teaching Method
TEACHING METHOD
EVALUATION
Results of Test and Activities
TOOLS
1. Sargent Jump
2. Standing Broad Jump
3. Medicine Ball Put
4. Leg Lifts
5. Pull-ups/Flex-arm hang
6. Etc.
REVISION
Were Goals Met ? ? ?
What Revisions must be made in Materials, Tools, etc. ? ? ?

PHYSICAL EDUCATION DEPARTMENT
UNIT ASSESSMENT FORM


BROAD GOALS
1. To improve the joint flexibility of all students
2. To determine how much flexion-extension is good or bad for an individual
3. To maintain a satisfactory degree of flexibility within all students.
SPECIFIC OBJECTIVES
1. To improve the ability of an individual to flex and extend various parts of the body
MATERIALS
1. Flexibility Unit
2. Calisthenics
3. Resource Materials
4. Written Work
5. Teaching Method
TEACHING METHOD
EVALUATION
Results of Tests and Activities
TOOLS
1. Sit and Reach Test
2. Extended flexibility Test
3. Dynamic Flexibility
4. Standing/Bending Reach Test
REVISION
Were the Goals Met ? ? ?
What revisions must be made in materials, tools, etc.

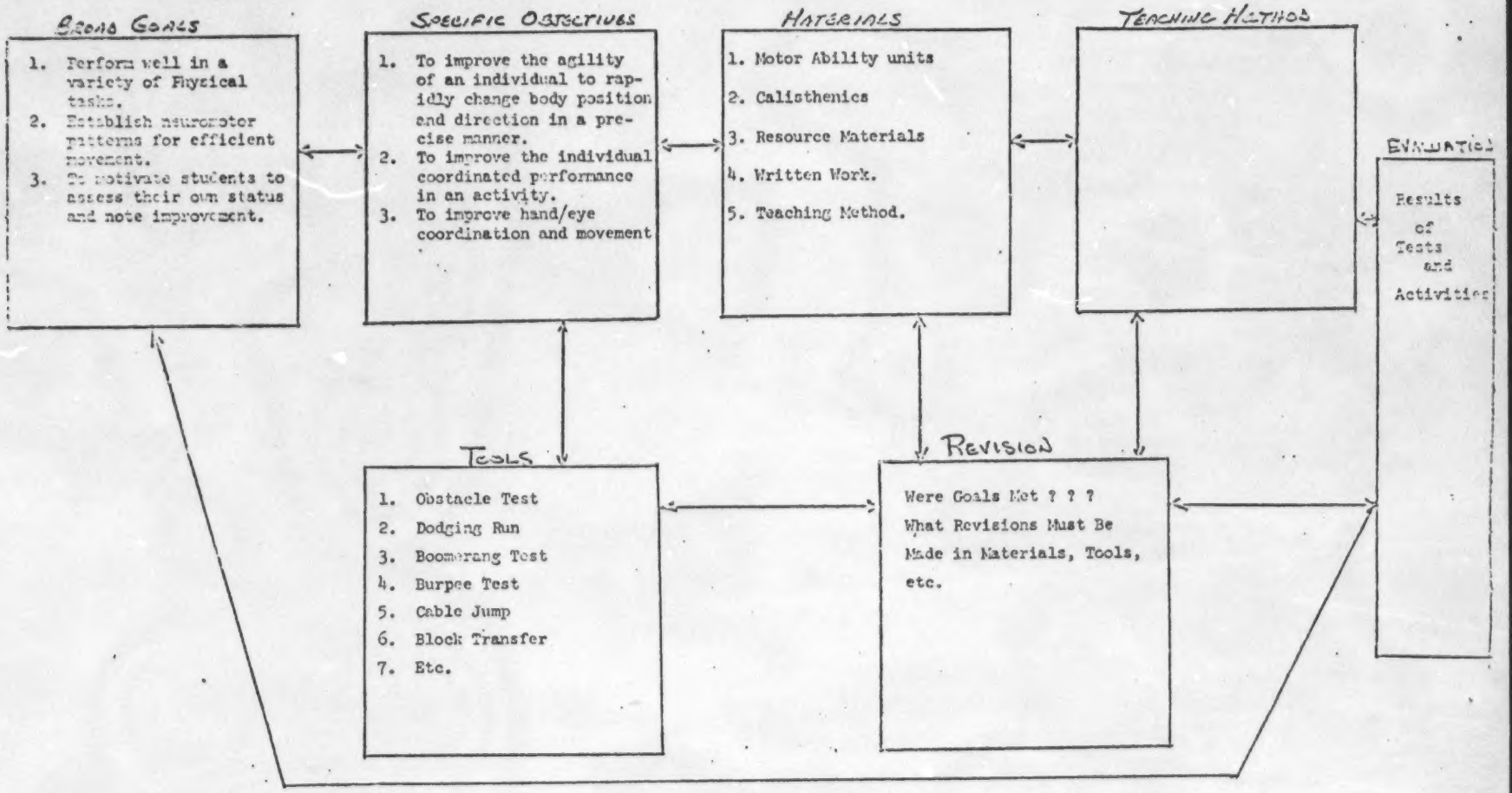
KINESTHETIC AWARENESS

PHYSICAL EDUCATION DEPARTMENT
UNIT ASSESSMENT FORM


BROAD GOALS
1. To develop an awareness of body position and movement during physical activity.
2. To develop a physical empathy for movement to learn quickly and perceive motor problems readily
SPECIFIC OBJECTIVES
1. To improve the ability to perceive distance by concentrating on the effort involved in jumping.
2. To improve the ability to predict position during movement.
3. To improve static balance while supported on the ball of the foot or on a narrow surface.
MATERIALS
1. Kinesthetic Awareness Unit
2. Calisthenics.
3. Resource Materials
4. Written Work
5. Teaching Method
TEACHING METHOD
EVALUATION
Results of Tests and Activities
TOOLS
1. Kinesthetic Obstacle Test
2. Distance Perception Jump
3. Board Balance
4. Stork Stand
5. Stick Test
6. Pedestrial Kinesthetic Test of Size
7. Walking straight line/turns
REVISION
Were Goals Met ? ? ?
What revisions must be made in materials, tools etc.

MOTOR ABILITY ACTIVITIES

PHYSICAL EDUCATION DEPARTMENT
UNIT ASSESSMENT FORM


BROAD GOALS
1. Perform well in a variety of Physical tasks.
2. Establish neuromotor patterns for efficient movement.
3. To motivate students to assess their own status and note improvement.
SPECIFIC OBJECTIVES
1. To improve the agility of an individual to rapidly change body position and direction in a precise manner.
2. To improve the individual coordinated performance in an activity.
3. To improve hand/eye coordination and movement
MATERIALS
1. Motor Ability units
2. Calisthenics
3. Resource Materials
4. Written Work.
5. Teaching Method.
TEACHING METHOD
EVALUATION
Results of Tests and Activities
TESTS
1. Obstacle Test
2. Dodging Run
3. Boomerang Test
4. Burpee Test
5. Cable Jump
6. Block Transfer
7. Etc.
REVISION
Were Goals Met ? ? ?
What Revisions Must Be Made in Materials, Tools, etc.

CARDIOVASCULAR TEST

1. Harvard Step Test - (Johnson/Nelson p-299)
   Measures physical fitness for muscular work and the ability to recover from work.
2. Cardiovascular Efficiency Test - (Johnson/Nelson - p.305)
3. Aahper Fitness Test - (Booklet also Johnson/Nelson p.317)
4. Aerobics - (I.M.C.).

FLEXIBILITY TEST

1. Sit and Reach Test (Johnson/Nelson p. 199)
   Measures the flexion of the hip and back as well as the elasticity of the hamstring muscles.
2. Extended Flexibility Test (Fleishman p. 161)
   Measures the ability to flex and stretch the trunk and back muscles
3. Dynamic Flexibility Test (Fleishman p. 162)
   Measures the ability to make repeated, rapid, flexing movements.
4. Standing/Bending Reach Test (Scott/French p.311)
   Test of hip and back flexion.

KINESTHETIC TEST

1. Kinesthetic Obstacle Test - (Johnson/Nelson p.185)
   Measures the ability to predict position during movement without the use of the eyes.
2. Pedestrial Kinesthesis Test of Size - (Johnson/Nelson p. 187)
3. Stork Stand (Johnson/Nelson p.158) Measures static balance of performer
4. Bass Stick Test (Johnson/Nelson p. 160)
5. Board Balance (Fleishman p. 88) - Measures ability to maintain balance while standing on a movable support.
6. Walking Straight Line/Turns - (Scott & French p. 395)
   Orientation in space.

MOTOR ABILITY TEST

1. Obstacle Test (Johnson/Nelson p.111)
   Measures the agility of performer in running, dodging, changing directions and scrambling to his feet from lying position.
2. Boomerang Run - (Johnson/Nelson p.109)
   Measures ability of the performer in running and changing directions.
3. Dodging Run - (Johnson/Nelson p.105)
4. Burpee Test - (Johnson/Nelson p.100) Measure the rapidity by which body position can be changed.
5. Cable Jump - (Fleishman p. 169) - Measures coordinated performance.
6. Block Transfer (Fleishman p. 81) Measures speed of flexion and extension.

STRENGTH/POWER TEST

1. Sargent Jump - (Johnson/Nelson p.81) Measures the power of legs.
2. Standing Broad Jump - (Johnson/Nelson p.83)
3. Medicine Ball Put (Johnson/Nelson p.86)
   Measures the power of the arm and shoulder girdle.
4. Leg Lifts - (Fleishman p. 168) Measures strength of trunk.
5. Pull-ups/Flex Arm Hang - (Fleishman p.167 & p.50)

DEERFIELD HIGH SCHOOL
PHYSICAL EDUCATION DEPARTMENT

Test Result Form

Teacher _____ Test Used _____

Level _____

Unit _____

Date _____
Day Mo. Year

STUDENT NAME	PRE TEST	POST TEST	Indicated RESULTS by + or -
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39			
40			
Number	Raw Score total	Raw Score total	

For Department use only

School Pre test mean _____

Post test mean _____

THE PHYSICAL EDUCATION ASSESSMENT TESTING PROGRAM OF DEERFIELD HIGH SCHOOL

During the summer of 1972 a Deerfield High School workshop examined the problem associated with an Assessment Evaluation program and produced the following statement:

"We are reaching the point where we will be required to produce specific data as we attempt to receive aid in improving our programs. We are also aware of the position physical education has often been given in the educational spectrum, low man on the totem pole. We would like to improve our position at Deerfield High School".

The individuals in the workshop considered that no unit offered is an end in itself but that the activity will produce benefits more important than the activity.

All activities were placed in five major catagories plus lifetime sports and general fitness.

1. Cardiovascular Activities
2. General Motor Ability
3. Strength and Power
4. Kinesthetic Awareness
5. Flexibility Activities
6. Lifetime Sports
7. General Fitness

As many activities (units) as possible were to be examined for their contribution to the above mentioned classifications.

Objectives of the Assessment

It was assumed that an examination of the unit offerings would provide concrete data that would enable us to develop curriculum geared towards the optimum development of our seven catagories.

The objectives as set forth by the workshop were:

1. Help teachers and department become better organized and produce better teaching.

2. Help in assessing specific programs and teachers.
3. Help produce a method to assess the physical benefits of units and the degree the benefits are being achieved.
4. Help establish a method by which the department can look at units and make revisions through evaluation, i.e. additional supplies, materials, teaching methods, sequence of presenting materials, etc.
5. Relate specific physical benefits of an activity to the student.
   a. Placement of units to produce a determined fitness level
   b. Determine a fitness level for Deerfield students
   c. Additions and deletions of activities by specific data
   d. Collection of data to be used in planning

The workshop group examined the literature for instrument of evaluation that would be suitable for the Deerfield situation. The following list was developed.

EVALUATION IN PHYSICAL EDUCATION

CARDIOVASCULAR TEST

1. Harvard Step Test - (Johnson/Nelson p-299)
   Measures physical fitness for muscular work and the ability to recover from work.
2. Cardiovascular Effenciency Test - (Johnson/Nelson - p. 305)
3. AAHPER Fitness Test - (Booklet also Johnson/Nelson - p. 317)
4. Aerobics - (I.M.C.)

FLEXIBILITY TEST

1. Sit and Reach Test - (Johnson/Nelson - p.199)
   Measures the flexion of the hip and back as well as the elasticity of the hamstring muscles.
2. Extended Flexibility Test - (Fleishman - p.161)
   Measures the ability to flex and stretch the trunk and back muscles.
3. Dynamic Flexibility Test - (Fleishman p.162)
   Measures the ability to make repeated, rapid, flexing movements.
4. Standing /Bending Reach Test - (Scott/French p.311)
   Test of hip and back flexion.

KINESTHETIC TEST

1. Kinesthetic Obsticle Test - (Johnson/Nelson - p.185) Measures the ability to predict position during movement without the use of the eyes.
2. Pedestrial Kinesthesis Test of Size (Johnson/Nelson p.187)
3. Stork Stand (Johnson/Nelson p. 158) Measures static balance of performer.
4. Bass Stick Test - (Johnson/Nelson - p.160)
5. Board Balance - (Fleishman p.88) Measures ability to maintain balance while standing on a moveable support.
6. Walking Straight Line/Turns -(Scott & French p.395) Orientation in Space.

MOTOR ABILITY TEST

1. Obsticle Test -(Johnson/Nelson p.111) Measures ability of performer in running, dodging, changing directions and scrabling to his feet from lying position.
2. Boomerang Run - (Johnson/Nelson p.109) Measures ability of performer in running and changing direction.
3. Dodging Run - (Johnson/Nelson p.105)
4. Burpee Test - (Johnson/Nelson p.100) Measures the ability by which body position can be changed.
5. Cable Jump -(Fleishman p.81) Measures coordinated performance.
6. Block Transfer - (Fleishman p.81) Measures speed fo flexion and extension.

STRENGTH/POWER TEST

1. Sargent Jump - (Johnson/Nelson p.81) Measures the power of legs.
2. Standing Broad Jump - (Johnson/Nelson p.83)
3. Medicine Ball Put - (Johnson/Nelson p.86) Measures the power of the arm and shoulder girdle.
4. Leg Lifts - (Fleishman p.168) Measures strength of trunk.
5. Pull-ups/Flex Arm Hang - (Fleishman p.167 & p.50)

Assumptions

Prior to the beginning of the testing program the workshop group assumed that positive contributions would be made to our five general areas by the following activities.

Cardiovascular
- Aquatic Activities
- Field Hockey
- Flickerball
- Folk Dance
- Football
- LaCrosse
- Soccer
- Speedball
- Team Handball
- Track

Flexibility
- Fencing
- Gymnastics
- Tumbling
- Wrestling

General Motor Ability
- Archery
- Badminton
- Basketball
- Bowling
- Dance
- Handball
- Ice Hockey
- Paddleball
- Rhythmic Gymnastics
- Softball
- Tennis
- Volleyball

Kinesthetic Awareness
- Combative Activities
- Dance
- Diving
- Golf
- Gymnastics
- Skiing
- Trampoline
- Tumbling
- Fundamental Movements
- Body Mechanics

Strength and Power
- Conditioning
- Gymnastics
- Tumbling (Girls)
- Volleyball (Girls)
- Weights

General Fitness
- AAHPER Testing Program
- Marine Testing Program
- Deerfield High School Testing Program
- T.K. Cureton Conditioning Program
- Fitness for Living Unit

Life-Time Sports
- Archery
- Aquatic Activities
- Badminton
- Boating
- Bowling
- Curling
- Fishing
- Golf
- Horseback Riding
- Outdoor Education
- Tennis
- Trap and Skeet Shooting
- Volleyball

When the testing program became a reality we knew that it would take us five years to complete.since only one phase would be tested per year. Dr. Louis Gatta, the chairperson of Deerfield's Science Department, helped formulate our testing procedures.

The Program

1. Cardiovascular Endurance

Our first undertaking was to measure unit effectiveness on individual cardiovascular endurance as measured by the Harvard Step Test. Nine activities were examined for their contributions. Four of the activities showed a significant level of improvement in cardiovascular endurance as measured by the Harvard Step Test. Those units were paddleball, floor hockey, still rings, and track and fitness. Note Appendix I for

greater detail.

2. Flexibility

Three tests were used to supply data for this phase of our evaluation; the Sit and Reach Test, the Extended Flexibility Test, and a Shoulder Elevation Test. Many activities were evaluated for their contributions during the testing program. Only seven proved to be of value towards flexibility. In each case the improvement was significant only in the extended flexibility test - the measure of trunk and back flexibility. The units of instruction which proved to contribute towards flexibility were: fitness for living, wrestling/tumbling, girls gymnastics, trampoline, tumbling, swimming and weights/volleyball. A detailed analysis of all units can be found in Appendix II.

3. Strength and Power

The Medicine Ball Put (Johnson/Nelson) was our chosen instrument for testing arm and shoulder strength and power while a mini-gym with a dial indicator was used to measure leg strength and power. Twenty five activity units were measured. Soccer and LaCrosse showed a significant contribution to leg strength and power while football/track, swimming, hockey, and softball made a positive contribution to arm/shoulder strength and power. Appendix III shows a compilation of information.

4. General Motor Ability

The L.S.U. Agility test was used to help determine if motor ability would be improved through various units of instruction. Though this test was not included in the origional workshop list it was considered to be of value for our purpose. The test measures ones ability to scramble, crawl, and change direction. Those units which showed a positive contribution to ones general motor ability were, badminton, tennis, floor hockey, soccer, speedball, track, and cross country skiing.

Refer to Appendix IV for complete results.

5. Kinesthetic Awareness

The Bass Stick Test was used to measure ones ability to maintain balance on a small narrow surface. Our testing results indicated that the following units of instruction made a contribution to increased kinesthetic awareness:

- Gymnastics, boys and girls events primarily, tumbling and vaulting
- Trampoline, almost all unit lengths
- Golf
- Fencing

After results were figured and before anything could be duplicated information resulting in the above was lost or destroyed.

Everlap of Contributions

A comparison of the results of our investigation shows some overlap in our units of instruction.

CARDIOVASCULAR	KINESTHETIC	FLEXIBILITY	STRENGTH/POWER Arm / leg	MOTOR
Still Rings				
Paddleball				
Floor Hockey				Floor Hockey
		Fit for Living		
		Wrestling		
	Tumbling	Tumbling		
		Gymnastics G		
		Wts/Volleyball		
		Swimming	Swimming	Swimming
	Trampoline	Trampoline		
			Ftb/Track	
			Softball	
Track/Fitness			Fitness	
			Volleyball	
			Soccer Soccer	
			LaCrosse	
				Speedball
				Tennis
				Badminton
	Golf			
	Fencing			
	Vaulting			

Conclusions

We do not assume the findings of this study are completely accurate. Many variables, some being impossible to control, will have made their mark upon this undertaking. School vacation time, personal illness, lack of individual motivation, varying lengths of units, change in testing location, lack of consistancy in teaching method, and many other uncontrolled situations will have affected this study.

We feel the study has great importance when applied to the Deerfield High School situation even though the findings may not have been conducted with generally acceptable scientific procedures. We intend to apply the results to our situation. The study should be most beneficial in helping us meet the objectives as stated at the beginning of this paper. That is, evaluate units of instruction in terms of presenting materials (unit length and class procedures), and evaluating teaching methods. If the results can be used to develop specific programs then our supply and equipment requirements will be vastly affected by our study.

Based upon the information obtained a sample curriculum may include the following activities.

Fitness for Living
Volleyball
Fencing
Paddleball
Wrestling
Badminton
Soccer
Floor Hockey
Swimming
Tumbling
Tennis
LaCrosse

The combinations that could be developed seem limitless. If we assume that a maintained level of our stated catagories of cardiovascular, flexibility, strength/power, kinesthetic awareness, and motor ability are desirable outcomes of a physical education program, then the above curriculum would meet those objectives.

APPENDIX I

TO: T.N. Halford

FROM: Bob Jones

DATE: 5-15-74

RE: Assessment Testing Program

On 10-19-73 Mr. Halford submitted a management contract program to the administration dealing with the "Assessment Testing Program". After a semester of silence and no action on the above mentioned program I was released froma 7th period study hall supervision duty with the understanding that I would begin the project immediately, working my way into any number of classes that were meeting during periods 3-5-7 and/or 9. The intention was to collect as much data as possible from as many units of instruction as possible.

After setting up a schedule of probable class and unit visitation my work began. The results of our efforts are presented in the outline form that Mr. Halford used when presenting the management contract on Assessment Testing.

I. Cardiovascular testing of units and classes.

A. Intent - to determine if cardiovascular endurance would decrease or increase during a unit of instruction.

Using class averages produced by the testing instrument (Harvard Step Test) we can say

1. The average class heart beat decreased during the post test in 7 of 9 classes.

   Two classes did not show a decrease, one being a class participating in Volleyball while the other was involved in Basketball.

2. Results were not completed on 7 other classes that were tested at the beginning of their present unit.

B. Outcomes to be expected.

1. The placement of units in a specific order to maintain a constant level of physical fitness is not a feasable action at this time. Enough evidence has not been gathered to make such a determination. More units and grade levels must be examined before such an action can be accomplished with confidence.

2. Though several sets of figures are available we are still unable to determine if a given unit of instruction has cardiovascular fitness values over other units of instruction. Every unit has not been tested nor has every class at a given level.

Reprinted from origional report

C. Procedures to be used.
The testing has been done using the Harvard Step Test. This involves a pre-test pulse count - five minutes of stepping a measured distance up and down using a metrodome tape of 120 steps per minute - resting for 1 minute then counting the pulse again for a measured amount of time.

II. Monitering and Evaluation

A. The test relults were developed into prelimenary workable figures and some assumptions were made. Dr. Gatta is making an attempt to develop scientific data based upon our results. The figures will be forthcoming.

B. Testing Time.
Through my release from a supervisory duty, time was made available for the testing.

C. Objectivity of the Assessment.
It is assumed the testing procedure was objective. Directions were supplied by the department chairperson and a manual of instructions for the Harvard Step Test was made available. The metrodome tape was produced for a rhythmical sound throughout the test period.
Much room for error still existed, however, the concentration necessary to count a pulse rate is much greater than suspected. The general attitude of those being tested cannot be controlled nor can the physical and mental fitness be stabilized by the administrator. The judgement of the administrator was the determining factor concerning an individual's performance during the testing period.

III. Description of Materials and Resources.

All materials were supplied as needed along with general and specific directions.

IV. Communication between test administrator and department chairperson.

A. After a tentative program outline and course of action was determined there was no need for continued review. Concern was expressed many times as to the effectiveness of our attempts.

B. As expressed by an earlier communication our results should be ready by June 13, 1974.

Appendix I Table I

ANALYSIS OF WORK MEANS
BEFORE AND AFTER ACTIVITY UNIT
HARVARD STEP TEST

Activity	Mean BEFORE Activity Unit	Mean AFTER Activity Unit	Level of Significance
Rings	59.8	55.9	.05
Volleyball	55.7	56.0	No
Paddleball	57.7	53.3	.05
Floor Hockey (Sophs)	62.59	49.34	.001
Floor Hockey (Juniors)	65.6	60.0	.10
Combined Floor Hockey	64.1	54.5	.001
Track/Fitness	61.9	54.4	.001

APPENDIX II

TO: T.N. Halford

FROM: Bob Jones

DATE: 5-29-75

RE: Testing Program

The following report is a summary of this year's Assessment Evaluation Program. As was agreed upon at the beginning of the school year, we are attempting to measure the contributions of various units of instruction towards flexibility within several joints of the body.

Instruments of evaluation were selected from several pieces of literature concerned with evaluation in the field of Physical Education. The three instruments that were used were selected for the following reasons:

1. Ease of administration in terms of time.
2. Lack of discrimination on sex and age.
3. Reliability and validity as recorded through accepted statistical application.
4. Simplicity of equipment and materials needed for proper administration.

Instruments

1. Trunk extension; to measure the ability to extend the trunk backward.

   The student had to lie prone and attempt to rise as high as possible. A measurement to the nearest quarter inch was made from the floor to the suprasternal notch.

2. The Modified Sit and Reach Test; to measure the flexion of the hip and back as well as the elasticity of the hamstring muscles. The performer was to sit on the floor with feet at right ankles to a line drawn on the floor. The performer was to reach with both hands forward on a yardstick and hold. The extent of the fingertips was measured to the nearest quarter inch.

3. Shoulder Elevation; to measure the ability to elevate the shoulders. The performer was to assume a prone position with arms straight and about shoulder width apart. The person was to grasp a stick and raise it as high as possible while keeping the arms straight and the chin on the floor. A measurement was made to the nearest quarter inch from the floor to the highest point reached with the stick.

PROCEDURES:

Students under the direction of seven (7) different instructors were evaluated with pre and post tests in thirty (30) different units or the same units at different times. Both pre and post tests were given with no prior announcement to the class and a minimum amount of warm up time. All students were evaluated within two days before and after the units of instruction.

RESULTS:

The following tables list the results of the current study.

Please refer to summaries on page 3.

INSTRUCTOR:	UNIT	Trunk Extension	Significant Level	Shoulder Elevation	Significant Level	Sit and Reach	Significant Level
DiFrancesca	Fitness	2.39	No	.72	No	.06	No
(senior boys	Hockey-Floor	.61	No	1.26	No	1.13	No
2nd period)	Basketball	-.13	No	-.1	No	.02	No
Jones	Tennis	-.67	No	.06	No	.05	No
(freshmen boys	Fitness for Living	.73	Yes at .01	.21	No	.48	No
1st period)	Wrestling-Tumbling	-3.83	Yes at .0005	-.29	No	.09	No
	Tumbling-Vault	- .89	No	-.07	No	-.69	No
Pettinger	Football	-3.24	No	.66	No	.08	No
(senior girls	Volleyball	-1.14	No	-.47	No	-.56	No
early bird)	Basektball	- .29	No	-.19	No	.26	No
	Badminton	.23	No	-.69	No	-.3	No
Lacy	Fitness	1.02	No	.28	No	-.53	No
(junior girls	Gymnastics	-1.91	Yes at .05	-.18	No	-.23	No
4th period)	Fencing-Tramp	.2	No	.08	No	-.1	No
	Tramp	.45	No	.19	No	.06	No
	Badminton	.22	No	.06	No	.16	No
Small	Volleyball	-.08	No	-.87	No	-.16	No
(freshmen	Tumbling	-2.15	Yes at .025	-.43	No	-1.0	NO
girls-6th	Tumbling #2	0.0	No	.34	No	.1	No
period)	Swimming	.81	No	.42	No	-.42	No
Cowgill	Football	-.41	No	.91	No	.17	No
(Jr. boys	Swimming	1.29	No	-.50	No	-1.1	No
6th period)	Weights-Volleyball	-1.80	Yes at .05	.41	No	-.55	No
	Still Rings	-.18	No	-.09	No	-.38	No
	Handball	-.45	No	.45	No	1.19	No
	Trampoline	.12	No	.35	No	-.36	No
Cowgill	Swimming	2.18	Yes at .025	.82	No	.78	No
(Soph. boys	Tennis	-.49	No	-.14	No	.84	No
9th period)	Trampoline	-1.40	Yes at .10	-.32	No	.15	No
	Wrestling	.77	No	1.15	No	-.02	No
	Weights-Gymnastics	.08	No	-.16	No	.17	No

CONCLUSIONS:

1. That seven (7) units of instruction showed measurable degrees of significance when selected measurements of flexibility were evaluated before and after the units.

2. That in all seven (7) cases, Trunk Extension proved to show the increase in measurement.

COMMENTS:

In only seven (7) units of instruction were we able to show a degree of significant relationship between the unit and the resulting change in physical flexibility as measured by our selected methods of evaluation.

In all seven (7) instances it was found that individual or combative sports were involved to some degree when a significant relationship was found. This is not to say that individual and combative sports are our only means to increased flexibility.

As a result of this evaluation I have formed the following opinion: That individual flexibility can and will be increased only if the individual feels a need for self improvement. This may come about through personal awareness or a developmental change in attitude by way of the instructor.

Because of the many variables that cannot be stabilized; student illness, vacation periods, physical education period of instruction, personal problems at the time of evaluation, and lack of seriousness concerning scientific research, I find it difficult to make recommendations concerning the placement of various units of instruction. Possibly when all data has been collected from all evaluations, such recommendations may be made.

RECOMMENDATIONS:

1. That the Assessment Testing Program in Physical Education continue into the 1975-76 school year.

BJ:ab

APPENDIX III

TO: T.N. Halford

FROM: Bob Jones

DATE: 6-15-76

RE: Assessment Testing Program(1976)

The objective of this years testing program has been to determine if different units of instruction would show any significant difference in terms of leg power and arm and shoulder power. Leg power was measured throughout the year in the following manner.

Students were instructed to stand on the platform of our Super Mini-Gym which was placed far enough away from the wall to develop a 90 angle at the knee when placing the back (upper torso) against a slick wall. With arms fully extended and the back staying against the wall, the student attempted to come to a full stand as quickly as possibly. The amount of force exerted by the student was then measured on a scale secured to the Mini-Gym. The scale measured resistance provided by the student from 50 to 600 lbs. All students were given three attempts in succession with the better score being accepted.

The arm and shoulder power was measured with the use of a medium ball weighing 8 lbs. Students were instructed to hold the ball between the palms of the hand and just under the chin on the chest. The ball was marked with two X's where the palms were to be placed. A chair was provided with a back rest. With the aid of a rope placed around the student's chest, enough pressure was exerted by a second student to hold the first student's back against the chair back. The student was allowed two tries to push the ball as far forward as possible causing it to land on a tape measure extended from the front rung of the chair. The better of the two times was recorded to the nearest foot.

Students were measured at the beginning of the instructional units $\pm$ two days The follow-up testing was conducted at the end of units $\pm$ two days.

The following chart provides the summary data.

Leg Power Test

In only two occasions did the leg power test prove that a given unit contributed to the increase of power in the legs for those persons tested.

A soccer unit for senior boys proved to be of benefit in terms of increased leg power. However, the level of significance was only at the .10 level. The one other positive contribution was made by a class of junior girls during a unit of LaCrosse. Leg power showed a significant improvement to the .10 level. In both cases, the results indicate that the units will provide an increase in leg power in 10 out of 100 cases.

Reprinted from original report.

Arm Power Test

The arm and shoulder power test showed that several units made contributions towards increased power.

The breakdown is as follows:

Senior boys	Football & Track	.10 level
Junior girls	Field Hockey	.05 level
Junior girls	Softball	.05 level
Freshmen boys	Swim-Fitness	.05 level
Freshmen boys	Volleyball	.10 level
Sophomore boys	Soccer	.10 level

Instructor		UNIT	LEG POWER TEST	Level of SIGNIF.	ARM & SHOULDER POWER TEST	Level of SIGNIF.
Halford	Seniors EB	Football-Track	.028606	No	-1.833022	Yes .10
Harrington	Seniors	Soccer	1.375	Yes .10	.4152	No
Pettinger	Seniors-2nd	Football	.03928	No	.779976	No
		Fitness-BB-VB	.307414	No	.586589	No
		VB	.079110	No	.004938	No
		Dance	.0391	No	.0879	No
		Bd -VB-Gym	.0201	No	.0356	No
		Swim	.1321	No	.0602	No
		Badminton	.0856	No	.0207	No
		Speedaway	.0672	No	.0318	No
Coleman	Juniors	Hockey	.3216	No	1.8999	Yes .15
		Lacross	1.4695	Yes .10	0	No
		VB - Fencing	1.2829	No	.8431	No
		Basketball Swim	.0716	No	.0187	No
		Badminton	.0583	No	.02039	No
		Trampoline	.7403	No	.6604	No
		Softball	1.0572	No	1.9931	Yes .10
		Golf	.0719	No	1.1677	No
Jones	Freshmen	Swim F.T.	.9028	No	1.0799	Yes .15
		Wrestling	.08495	No	.05424	No
		Gym	.0392	No	.09222	No
		Gym-Ropes Rings	.0705	No	.01215	No
		VB	.6931	No	1.4578	Yes .10
Wolter	Juniors	Soccer	.4233	No	.6349	No
		Speedball	.07563	No	.00515	No
		VB	.4641	No	.4282	No
Johansen	Juniors	Rings	.2481	No	.0286	No
		Tram HB	.1874	No	.0222	No
		F. Hockey	.5123	No	.9210	No
		Trampoline	.00486	No		
Cowgill	Sophomores	Tennis	.3157	No	-.1855	No
		Swim	.5832	No	-.6029	No
		Soccer	.10058	No	1.4194	Yes .10
		F. Hockey	.5554	No	.5641	No
		Gym	.5390	No	0	No
		Wts - Bad	.1637	No	.5293	No

APPENDIX IV

DEERFIELD HIGH SCHOOL

PHYSICAL EDUCATION DEPARTMENT

ASSESSMENT TESTING 1978-79

This year's testing program focused on agility as measured by the L.S.U. Agility Test. The testing program was administered by Mr. Mike Kennedy. On October 4, 1978 a memo was distributed to all P.E. Staff members explaining the testing procedures and what classes would be involved in the program. Classes were selected from 8 of the 9 daily periods and were considered representative of all grade levels and track offerings. The following classes were involved in the program.

Luehr	1st period	1-2A class
Strauch	2nd period	3-4A class
Halford DiFrancesca	3rd period	7-8D class
Harris	4th period	5-6A class
Sanneman	5th period	7-8C class
Penrod	6th period	1-2D class
O'Connor	8th period	3-4E class
Jones	9th period	5-6H class

The enrollment of each class was tested following the schedule as stated in the memo dated 10/4/78. All class students were thus ranked according to speed of performances and divided into quarters; the fastest ¼, the second fastest ¼, the third fastest ¼, and the fourth fastest ¼. Using a random numbers table three students were selected from each quarter of each class giving us 12 representatives from each class with whom the test would be administered throughout the school year. The random selection was considered necessary in order to prevent total disruption of normal class activity.

The following charts demonstrate the results of the agility testing program.

Yr.	Teacher	M or F Co-ed	Unit	Test Mean	F	2. Level of Significant
F	Luehr	F	Gymnastics	18.2	f=1.02	N S
			Gymnastics	18.5	f=.3	N S
			Volleyball	18.33	f=.43	N S
			Volleyball	17.9	f=107	N S
			Weight Lifting	17.7	f=.045	N S
			Tumbling	17.6	f=.22	N S
			Field Hockey	17.5	f=.368	N S
			Field Hockey	18.44	f=2.89	Significantly slower at .01 level
S	Strauch	F	Field Hockey	18.87	f= .5	N S If volley
			Badminton	18.63	.316	N S ball-ten-
			Dance	18.83	.4	N S nes follo
			Dance	18.22	.279	N S ed Field
			Gymnastics	18.07	10689	N S Hockey
			Gymnastics	18.17	.139	N S would
			Volleyball	17.96	.3	N S scores be
			Tennis			significantly better?
Sr.	Halford DiFrancesca	Co-ed	Track	16.4	.329	N S
			Volleyball	16.5	.144	N S
			Floor Hockey	15.37	1.78	Significantly faster at .05
			Paddleball	15.32	.12	N S
			Basketball	15.21	.329	N S
			Team Handball	15.35	.43	N S
			Soccer	15.4	.06	N S
			Softball	15.23	.398	N S
Sr.	Harris	F	LaCrosse	18.66	.9	N S
			Fencing	19.1	.8	N S
			Basketball	18.8	.12	N S
			Basketball	18.47	.15	N S
			Swimming	18.27	.319	N S
			Badminton	18.35	.105	N S
			Golf	18.87	.645	N S
			Phy. Fintess	18.87		
			Softball	19.55	.906	N S
Sr.	Sanneman	F - M	Speedball	18.75	1.432	Significant at .05 level. If badminton followed gym. if may have proved significant.
			Fit. Fencing	18.42		
			Dance	18.13		
			Dance	18.44		
			Gymnastics	19.11		

Yr.	Teacher	M or F Co-ed	Unit	Test Mean	F	3. Level of Significant
F	Penrod	M				
	Cowgill	M	Tennis	16.77	1.45	Sign. faster at .01 level
			Speedball	16.8	.1	N S
			Volleyball	16.5	.967	N S
			Gymnastics	16.39	.41	N S
			Weights	16.17	.61	N S
			Wrestling	15.9	.619	N S
			Volleyball	16.17	.649	N S
			Track	16.75	.30	N S
Soph.	O'Connor	M	Swimming	15.62	1.44	Sign. faster at .10 level
			Soccer	15.33	.568	N S
			Weights	15.21	.25	N S
			Hockey	15.49	.65	N S
			Wrestling	15.3	.48	N S
			Volleyball	15.01	.52	N S
			Weights	14.9	.162	N S
			Team Handball	14.84	.089	N S
			Track	15.95	1.70	Sign. slower at .10
Sr.	Jones	Co-ed	Orienteering	17.9	.585	N S
			Soccer	18.69	2.10	Sign. slower at .05 level
			Badminton	17.68	4.53	Sign. faster at .0005 level
			Square Dance	17.12	1.10	N S
			Cross Country Ski	17.84	1.74	Sign. slower at .05 level
			Floor Hockey	18.00	2.22	N S Floor hockey did show a sign. level of improvement for other classes.

COMMENTS:

During the course of the year the mean times decreased from one unit to the next in most classes. The last test, however, produced slower times in all but three classes. Except in one class, significant results did not appear after the fourth unit. This may be attributed to the fact that the mean score had to improve by about 8/10 of a second. This amount of improvement in 18 second lapsed time is quite difficult. Some units which are expected to improve agility were participated in at the end of the year after progressive improvement were made.

DEERFIELD HIGH SCHOOL

PHYSICAL EDUCATION DEPARTMENT

NOTICE #28

TO: Staff

FROM: Tom Halford

RE: Fitness scores and grades

DATE: 5-12-80

Many of you have asked how we were going to interpolate the fitness score to grade. The following is the system I have used for many years. You can use it or develop one of your own. I did not take the time to go through the entire scale but you can do that on your own. Two points (fitness) equals one grade point.

CONVERSION CHART FOR FITNESS TEST:

FITNESS SCORE:		GRADE
0	=	45
10	=	50
19	=	59
20	=	60
30	=	65
39	=	69
40	=	70
50	=	75
59	=	79
60	=	80
70	=	85
79	=	89
80	=	90
90	=	95
99	=	100